#54

PATENT
Customer No. 22,852
Attorney Docket No. 01222.0034-00000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	)	
	)	
David A. RUSSO et al.	)	Group Art Unit: 1755
	)	
Application No.: 08/544,212	)	Examiner: D. Brunsman
	)	
Filed: October 17, 1995	)	
	)	
For: COATING COMPOSITION FOR GLASS	)	

Commissioner for Patents
Washington, DC 20231

Sir:

APPELLANTS' BRIEF ON APPEAL PURSUANT TO 37 C.F.R. § 1.192

Appellants submit the following brief in triplicate, accompanied by the fee required by 37 C.F.R. § 1.17(c). The brief sets out the authorities and arguments appellants will rely on to maintain the appeal.

Real Party Interest

The inventors assigned the parent application Serial No. 104,125, filed December 13, 1993 to Elf Atochem North America, Inc., and submitted the assignment for recording on December 16, 1993. Elf Atochem North America, Inc. changed their name to Atofina Chemicals, Inc. on June 19, 2000, who recorded the name change on June 25, 2000 at Reel 011007, Frame 0001, making Atofina Chemicals, Inc. the real party in interest. The

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application issued as Russo et al., U.S. Patent No. 5, 401, 305 (the "reissue patent") which forms the basis for the present reissue application

Related Appeals and Interferences

Appellants have a co-pending appeal before the Board of Patent Appeals and Interferences in the following related application:

Serial No. 09/287,664 Filed April 7, 1999

Status Of Claims

The Examiner allowed claims 1-27, but maintained the rejection of claims 28, 29, 31-60, and 65-66 in his Final Rejection of June 4, 2002. Appellants have appealed the rejection of the unallowed claims. Claims 30, and 61-64 have been canceled without prejudice or disclaimer

Status Of Amendments

Appellants have not amended any of the claims since the final rejection of June 4, 2002, and the Examiner has entered all prior amendments to the claims.

Summary Of Invention

The invention of the claims on appeal comprises a gaseous composition, a film based on the composition, and an article of manufacture comprising the film, or the film on a substrate. The invention provides for the production of an improved coating on glass, wherein the coated glass exhibits specific properties such as, e.g., controlled refractive index, abrasion resistance, color enhancement, low emissivity, selective light filtration, and anti-iridescence on flat-glass substrates. (Reissue patent, col. 4, lines 13-18) The invention also relates to compositions for manufacturing an oxide film by CVD

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at rates greater than about 350 Å/sec. at atmospheric pressure and at temperatures lower than 700° C. (Reissue patent, col. 4, lines 18-21)

When manufacturing an oxide film by CVD at rates greater than about 350 Å/sec., the invention employs a mixture which includes at least one precursor for a metal oxide, selected from the group consisting of volatile compounds of tin, germanium, titanium, aluminum, zirconium, zinc, indium, cadmium, hafnium, tungsten, vanadium, chromium, molybdenum, iridium, nickel and tantalum. The gaseous composition further includes a precursor for silicon dioxide, and one or more additives selected from the group consisting of phosphites, borates, water, alkyl phosphine, arsine and borane derivatives; PH_3, AsH_3 and B_2H_6; and O_2, N_2O, NF_3, NO_2 and CO_2. The additives are termed "accelerants" herein; the accelerants serve to increase the rate of deposition of the film onto the glass from the mixture. The mixture of precursors and additives is gaseous under the conditions of application required to produce the coated-glass article; the reaction of the materials in the gaseous mixture with atmospheric or added oxygen provides the corresponding oxides. (Reissue patent, col. 4, lines 21-40)

Precursors for deposition of metal oxides include, e.g., aluminum alkyls and alkoxides, cadmium alkyls, germanium halides and alkoxides, indium alkyls, titanium halides, zinc alkyls, and zirconium alkoxides. Specific examples of such compounds include, e.g., $Al(C_2H_5)_3$, CrO_2Cl_2, $GeBr_4$, $Ti(OC_3H_7)_4$, $TiCl_4$, $TiBr_4$, $Ti(C_5H_7O_2)_4$, $Zr(OC_5H_9)_4$, $Ni(CO)_4$, VCl_4, $Zn(CH_3)_2$, $Zr(C_5H_9O)_4$, and the like. (Reissue patent, col. 4, lines 46-53)

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Tin precursors include those described by the general formula R_nSnX_{4-n}, where R is independently chosen from straight, cyclic, or branched-chain alkyl or alkenyl of from one to about six carbons; phenyl, substituted phenyl, or $R'CH_2CH_2$–, where R′ is MeO_2C–, EtO_2C–, CH_3CO–, or HO_2C–; X is selected from the group consisting of halogen, acetate, perfluoroacetate, and their mixtures; and where n is 0, 1, or 2. Preferred precursors for tin oxide in the article of this invention are the organotin halides. (Reissue patent, col. 4, lines 54-63)

Precursors for silicon oxide include those described by the general formula $R_mO_nSi_p$, where m is from 3 to 8, n is from 1 to 4, p is from 1 to 4, and R is independently chosen from hydrogen and acyl, straight, cyclic, or branched-chain alkyl and substituted alkyl or alkenyl of from one to about six carbons, and phenyl or substituted phenyl. Preferred precursors for silicon oxide include tetraethylorthosilicate, diacetoxydi-t-butoxysilane, ethyltriacetoxysilane, methyl-triacetoxysilane, methyldiacetoxylsilane, tetramethyldisiloxane, tetramethylcyclotetrasiloxane, dipinacoloxysilane, 1,1-dimethylsila-2-oxacyclohexane, tetrakis (1-methoxy-2-propoxy) silane, and triethoxysilane. (Reissue patent, paragraph bridging cols. 4 and 5)

Suitable accelerants include phosphite and borate derivatives of the general formula $(R''O)_3P$ and $(R''O)_3B$, where R″ is independently chosen from straight, cyclic, or branched-chain alkyl or alkenyl of from one to about six carbons; phenyl, substituted phenyl, or $R'''CH_2CH_2$–, where R‴ is MeO_2C–, EtO_2C–, CH_3CO–, or HO_2C–; R″ is preferably alkyl or alkenyl of from 1 to 4 carbons in length. Particularly preferred accelerants are those selected from the group consisting of boron and phosphorus esters; most preferred are TEB and TEP. (Reissue patent, col. 5, lines 9-19)

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Issues

The issue on appeal is:

1. Whether, contrary to 35 U.S.C. § 251, broadened reissue claims 28, 29,31-60, 65 and 66, improperly recapture subject matter allegedly surrendered in the prosecution of the application for the reissue patent.

Grouping Of Claims

Claims 28, 29, 31-60, and 65-66 do not stand or fall together. Appellant will demonstrate the separate patentability of the claims in the subsequent Argument.

Argument

THE REJECTION UNDER 35 U.S.C. § 251 AND TRAVERSE

The Examiner rejected claims 28, 29, 31-60, and 65-66 under 35 U.S.C. § 251 as improperly recapturing broadened claim subject matter surrendered in the application for the reissue patent. In the paragraph immediately preceding the Examiner's rejection of the claims under 35 U.S.C. § 251 in the June 4, 2002 Office Action, the Examiner stated "[t]he issue of recapture with respect to the new categories of invention (see M.P.E.P. § 1412.03) filed with the reissue need not be resolved unless those claims are limited to the particular precursor compositions of the patented claims." (June 4, 2002 Office Action, p. 2, par. 3). Appellants will summarize the claims as follows in order to analyze this position taken by the Examiner.

The reissue patent contains claims 1-27 directed to a composition of matter. Newly added reissue claims 28, 29, 31 and 32 also relate to a composition of matter. The claims falling within the so-called "new categories of invention" comprise claims 33-

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60 directed to a film and an article of manufacture comprising the film on a substrate, and claims 65-66 which relate to a product produced by the process of oxidizing the composition of any one of claims 1-29 and 31-32.

Appellants point out M.P.E.P. § 1412.03 referred to by the Examiner does not relate to issues of recapture but rather criteria for determining whether appellants have submitted broadened reissue claims. The new categories of invention as set out in the film and article of manufacture claims 33-60 and product-by-process claims 65-66 meet these criteria of broadened reissue claims since they include "subject matter not covered by the patent claims." (M.P.E.P. § 1412.03, p.1400-16, August 2001).

The Examiner then rejected the film and article of manufacture claims 31-60 and product-by-process claims 65-66 on grounds of improper recapture of broadened claim subject matter surrendered in the reissue patent, but the Examiner did not articulate how or where appellants surrendered this broadened claimed subject matter in the reissue patent. The Examiner also cited three decisions of the Court of Appeals for the Federal Circuit to support his recapture argument, however, he did not show how those cases applied to the facts or claims of the present application, other than to conclude these claims allegedly recaptured subject matter appellants surrendered in the prosecution of the reissue patent. (June 4, 2002 Office Action, p. 2, par. 4.)

For Example, the Examiner cited Hester Industries, Inc. v. Stein, Inc., 142 F.3d 1472, 46 U.S.P.Q. 2d 1641 (Fed. Cir. 1998) which held that arguments made during the prosecution of an application to distinguish features of the prior art prevented the appellant from claiming those features in a reissue patent. The Examiner has not

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1300 I Street, NW
Washington, DC 20005
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identified any arguments appellants made in the prosecution of the reissue patent that bear on the claims of the reissue application.

The other two cases cited by the Examiner, In re Clement, 131 F.3d 1464, 45 U.S.P.Q. 2d 1161 (Fed. Cir. 1997, and Ball Corp. v. United States 729 F.2d 1429, 1436, 221 U.S.P.Q. 289, 295 (Fed. Cir. 1984) have no bearing on the present application, not only for the reason that the Examiner did not show how they applied to the application, but also for the reasons appellants gave at pages 21-25 of their March 29. 1998 amendment which responded to the Examiner's recapture rejection. Appellants incorporate this part of the March 29 amendment by reference. Basically the rejection appellants responded to on March 29 argued that the amendments responsive to the silicon oxide precursor rejection in the reissue patent did not apply to the new category of metal oxide precursors presented in the reissue application claims, since the Examiner did not reject the metal claims in the reissue patent. Appellants also pointed out that any statements about silicon in the reissue patent and prosecution did not carry over to the metals since silicon is not a metal.

The principle that controls the prosecution of the present reissue application, however, holds that where the prosecution history shows that prior art did not motivate an amendment, and the record does not show that the patentee's conduct amounts to an admission that the reissue claims would not be patentable without the specific limitations of an amendment, recapture does not apply. A claim amendment responsive to an indefiniteness rejection and not a prior art rejection precludes application of the recapture doctrine based on deliberate surrender. In re Wesseler, 367 F.2d 838, 847, 151 U.S.P.Q. 339, 346-47 (C.C.P.A. 1966). The court in Wesseler found that an

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indefiniteness rejection led to the inclusion of an element in the claims by amendment, not a rejection over prior art, even though the Examiner made a prior art rejection. The court ruled that in the absence of facts showing that the inclusion of the omitted limitations was required to avoid the prior art, the recapture principle of deliberate surrender based on the Supreme Court's prosecution history estoppel analysis in Shepard v. Carrigan, 116 U.S. 593, 597, 6 S. Ct. 493, 495 29 L.Ed. 723 (1886), was not applicable. The court stated:

> Here, however, there is no objection to the appealed [reissue] claims based on prior art. We do not think the statement in Shepard, arising from the facts therein stated, is applicable here. Shepard may be support for the rule that one who deliberately adds a limitation to avoid the prior art cannot omit that limitation in reissue claims so as to encroach upon the prior art, but that is not the situation here . . . .

Id. 367 F.2d at 849, 151 U.S.P.Q. at 348 (emphasis added). In view of other portions of the prosecution history showing that the patentee did not intend to abandon coverage of its invention without the omitted limitation, the court concluded the appellants could correct the error by reissue, indicating:

> the record established that the appellant erroneously considered he was securing protection commensurate with the invention disclosed in the original application. There is no evidence that appellant intentionally omitted or abandoned the claimed subject matter. We find that while appellant acted "deliberately" he did so in error. This error, in view of the facts of record, was an 'error without any deceptive intention' which entitles appellant to secure a reissue of his patent under the provisions of section 251.

Id. 367 F.2d at 850, 151 U.S.P.Q. at 349 (emphasis in original).

Finally, the Wesseler court also noted that a "deliberate" amendment to create a recapture type estoppel did not arise just because an appellant submitted a written

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amendment to further prosecution. "Deliberate" requires that the patentee knowingly, without error, made the amendment ("every paper formally submitted is generally done 'deliberately' and with the design of advancing the prosecution so as to secure a patent. . . . [T]hat is not what is meant by the term 'deliberate.'") In re Wesseler, 367 F.2d 838, 848, 151 U.S.P.Q. 339, 347 (C.C.P.A. 1966)) The court reversed the rejection of the reissue claims that omitted a limitation added to an original claim where the prosecution record did not clearly show that the patentee had "deliberately" included the limitation to avoid prior art but that the patentee had intended to claim his invention commensurate in scope with what he disclosed.

Appellants emphasize the new category of invention covered by claims 33-60 all relate to a film or an article of manufacture, which they never claimed in the reissue patent. Claims 65-66 relate to a product produced by the process of oxidizing the compositions of claims 1-29 and 31-32 which appellants also never claimed in the reissue patent. Accordingly, the Examiner never rejected these claims in the reissue patent; appellants never amended them in the reissue patent, and never cancelled them from the reissue patent. The present reissue application presents claims of this type for the first time in the prosecution of this aspect of appellants' invention, and as a result the recapture criteria relied on by the Examiner have no bearing on these claims.

The Examiner nonetheless compares the film, article of manufacture and product-by-process claims of the present reissue application to the composition claims presented in the reissue patent, and the amendments appellants made to those composition claims to respond to a 35 U.S.C. § 112 first paragraph rejection. Those

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amendments further defined the silicon oxide precursors. Importantly, the Examiner did not reject the reissue patent claims on prior art, only 35 U.S.C. § 112.

The Examiner cannot look to those amendments of the composition of matter claims in the reissue patent, (one statutory class of invention) and conclude appellants gave up rights to film claims, article of manufacture claims and product-by-process claims in the reissue application (different statutory classes of invention) by the reissue patent prosecution. The amendments in the reissue patent directed toward composition claims do not carry over to film claims, article of manufacture claims or product-by-process claims in the present reissue application since they comprise different statutory classes of inventions. Different statutory classes of invention are separate inventions. Studiengesellschaft Kohle mbH v. Northern Petrochemical Company, 784 F.2d 351, 228 U.S.P.Q. 837, 839 (Fed. Cir. 1986). They differ in that infringement of one type of claim doesn't carry any presumption of infringement of the other. Prosecution of the reissue patent composition claims therefore has no bearing on the film claims, or article of manufacture claims, or product-by-process claims in the present application.

The Examiner, however, argues the instant claims contain subject matter broader than the reissue patent claims in that they do not include the "rate of deposition greater than 350Å/sec." recited in the reissue patent claims. Bearing in mind the reissue patent only contains composition claims, appellants point out the present reissue application claims 28, 29, 31 and 32, and 65-66 similarly comprise composition claims and product-by-process claims based on the composition, and as with the reissue patent, also claim the composition as having a "rate of deposition greater than 350Å/sec." Appellants therefore request the Examiner to withdraw the foregoing rejection with regard to claims

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28, 29, 31 and 32, and 65-66 since they include the same deposition rate parameters as the reissue patent.

As to the Examiner's rejection that Claims 33-60 also do not contain the composition claim's limitation of the deposition rate, appellants point out claims 33-60 relate to a film or a film on a substrate. Appellants never stated the claimed film depended on the deposition rates the Examiner employs in his rejection. The written description supports the appellants in this regard by describing the "invention . . . [as] a gaseous composition for producing an improved coating on glass . . ." (Reissue patent col. 4, lines 13 et seq.), i.e., the invention not only is a gaseous composition but also an "improved coating." Although this part of the written description describes a process for "producing" this coating on glass by a CVD rate greater than about 350Å/sec., this parameter only refers to one method for producing the coating and not the coating itself. The Examiner has no basis to confine the appellants to a film or an article of manufacture made by a specific process when the written description clearly states appellants' invention relates to an "improved coating."

Accordingly, the Examiner's reference on page 3 of the June 4, 2002 Office Action to the statement in the written description that "the invention is made by CVD rates greater than about 350Å/sec." takes that aspect of the disclosure out of the context of the entire statement of the invention in column 4, lines 13 et seq., and a fair reading of this would show that "CVD rates greater than about 350Å/sec." relate only to one aspect of the invention and should not be construed to indicate that appellants cannot claim another aspect of the invention, i.e., the film and article of manufacture defined in claims 33-60.

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The film exhibits "specific properties such as, e.g., controlled refractive index, abrasion resistance, color enhancement, low emissivity, selective light filtration, and anti-iridescence . . . ." (Reissue patent, col. 4, lines 16-18) The Examiner has not shown where in the disclosure appellants obtained these features by applying the film at a rate of 350Å/sec., nor can he, since appellants obtain these advantages in the film itself, and not by the method of improving production speeds.

The Examiner goes on to state:

> Compositional limitations were added in response to Examiner's rejection of the claims as not enabled for the required deposition rates. Examiner's action specifically stated, "The prior art of record fails to teach or suggest a gaseous composition comprising the recited tin oxide precursor, silicon oxide precursor and accelerant selected from borates, phosphates [sic, phosphites] and water". The claims were amended to be limited to those specific materials in response to the rejection. (June 4, 2002 Office Action, p. 3, par. 1).

As to the first contention of the Examiner that appellants added limits to the composition in response to the Examiner's rejection, the Examiner implies that appellants amended the silicon oxide precursors, the tin oxide precursors and the accelerants in response to his rejection relative to the deposition rates. A review of the September 20, 1994 Office Action in the reissue patent and appellants' October 25, 1994 Response will show that the appellants did not do this, but only amended the silicon oxide precursors to obtain allowance. Appellants did not amend the tin oxide, organic phosphite and organic borate accelerants to obtain allowance, nor did the Examiner require these amendments for allowance.

In the September 20, 1994 Office Action in the reissue patent the Examiner rejected claims 1-10, 14-23, 25 and 26 under 35 U.S.C. § 112, first paragraph on the

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grounds that the disclosure only enabled "claims limited [to] compositions wherein the silicon oxide precursor is limited to that recited in claim 11." (September 20, 1994 Office Action, p. 2, par.1) (emphasis added). The Examiner concluded the rejection on page 2, last paragraph of the September 20, 1994 Office Action by indicating he would allow the claims if appellants rewrote them to overcome the rejection under 35 U.S.C. § 112 and include all of the limitations of claim 11 in the base claim and intervening claims. Appellants' October 25, 1994 Amendment in response to that Office Action cancelled claim 11 and inserted the "silicon oxide precursor . . . recited in claim 11" into the claims the Examiner rejected.

Only after the Examiner indicated allowability if the claims were amended to include the silicon oxide precursor recited in claim 11 did he make the statement on page 3 of the September 20, 1994 Office Action that "[t]he prior art of record fails to teach or suggest a gaseous composition comprising the recited tin oxide precursor, silicon oxide precursor and accelerant selected from borates, phosphites and water." Taking this quotation totally out of context, the Examiner then incorporated it into his June 4, 2002 Office Action to argue "[t]he claims were amended to be limited to those specific materials in response to the rejection." (June 4, 2002, Office Action, p. 3, par. 1). "Those specific materials" would include not only the silicon oxide precursors, but also the tin oxide precursors, and the organic phosphite and organic borate accelerants.

As to this second contention, the Examiner never indicated in the reissue patent he would allow the claims on the condition that the appellants also amend the tin oxide precursor and the accelerant selected from organic borates and organic phosphates. The foregoing analysis of the September 24, 1994 Office Action shows the Examiner's

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indication of allowable subject matter in the reissue patent only related to amending the silicon oxide precursor to conform to the claim 11 description of this material. The following analysis of the October 25, 1994 Response also shows that the amendments of the tin oxide precursors, and the organic phosphite and organic borate accelerants were not required for allowance, and were not "limited to those specific materials in response to the rejection." as the Examiner now contends. In fact, the Examiner never rejected these "specific materials."

Appellants in their October 25, 1994 Amendment, not only amended the claims to include the claim 11 definition of the precursors of silicon oxide, but also amended the description of the tin oxide precursors, the organic phosphites and organic borates, even though not required by the Examiner to obtain allowance. Specifically, appellants added new independent claim 27 defining the tin oxide precursor with a generic formula and added claims 28 and 29 relating to a subgenus and a species of the precursor of the tin oxide. The Examiner did not require the generic formula which broadened the tin oxide precursors, or the species of tin oxide precursors for allowance, but he entered these amendments and allowed these claims.

The October 25, 1994 amendment also introduced generic formulas for the organic phosphite and organic borate accelerants of claim 6 and new claim 27, even though not required by the Examiner for allowance of the claims. The Examiner did not suggest these generic formulas which broadened the claims, but he nonetheless entered the amendments and allowed these claims. Claim 24 as originally presented related to a species of an organic phosphite whereas claim 25 as originally filed referred to these accelerants as boron and phosphorous esters. The Examiner did not have any

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objection to this terminology. New claims 28 and 29 referred to species of organic phosphites and organic borates even though the Examiner did not require an amendment to add these claims which he also allowed.

The foregoing clearly illustrates the Examiner only required one amendment for allowance, and that was for the silicon oxide precursor, which the appellants included in the composition claims of the reissue patent and which appellants also include in the composition and product-by-process claims of the present reissue application, i.e., claims 28, 29, 31 and 32, and claims 65-66.

Any amendments to the tin oxide precursors and the accelerants selected from organic phosphites and organic borates in the reissue patent do not introduce the recapture doctrine into the present application for at least two reasons. In the first instance, and most important, the appellants did not cancel any tin oxide precursor or accelerant selected from organic phosphites and organic borates from any of the claims in the reissue patent, and are not now trying to reintroduce cancelled material by way of this reissue application. In fact they did just the opposite when they amended on October 25, 1994 by adding broadening generic formulas for the tin oxide precursor, and the accelerants as well as species of these materials. Secondly they did not amend the tin oxide precursor, or the accelerants to address a 35 U.S.C. § 112 rejection, a prior art anticipation or obviousness rejection, or any other rejection by the Examiner.[1]

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[1] In his October 29, 2002 Advisory Action, the Examiner states "that the M.P.E.P. defines surrendered subject matter as made in response to. . .[an] 'objection. . . .'" (p.2, par. 2)(emphasis added). Apparently the Examiner took this position to address appellants' argument that the Examiner never rejected these claims, however, he did not cite the section of M.P.E.P. he relied on. In any event, appellants point out that the September 20, 1994 Office Action in the reissue patent never raised an objection to the (continued...)

The reissue patent issued with composition claims having a tin oxide precursor and organic phosphite, organic borate, or water accelerants. The present reissue application now introduces film and article of manufacture claims that include metal oxide precursors based on compounds not only of tin, but also germanium, titanium, aluminum, zirconium, zinc, indium, cadmium, hafnium, tungsten, vanadium, chromium, molybdenum, iridium, nickel, and tantalum, and accelerants including phosphites, borates, water, alkyl phosphine, arsine and borane derivatives, PH_3, AsH_3, B_2H_6, NF_3, NO_2, and CO_2. The written description supports these compounds at Column 4, lines 13-53.

The Examiner has failed to demonstrate how the amendments to the tin oxide precursors and the organic phosphite and organic borate accelerants in the composition claims of the reissue patent preclude the appellants from claiming any of the foregoing metal oxide precursors and accelerants in the film and article of manufacture claims in this reissue application. Specifically, appellants ask how does the amendment of the tin oxide precursor preclude them from precursors based on, for example germanium where the appellants never stated or indicated in the reissue patent that the invention did not include compounds based on germanium or the other metals listed in the Reissue patent at column 4 lines 21-26? The rejection also raises the same question regarding the accelerants.

(...continued)
substance of these claims, but only a rejection under 35 U.S.C. § 112 as to the form by the Examiner's statement that these claims were "dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims." (Reissue patent, September 20, 1994 Office Action, p. 2, par. 4)

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1300 I Street, NW
Washington, DC 20005
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The Examiner in the June 4, 2002 Office Action (p.3, par. 1) cites M.P.E.P. § 1412.01 (penultimate paragraph) as the basis for his argument that the "instant claims are not drawn to the same invention as that disclosed as being the invention in the original patent." That section of the Manual doesn't support the position he takes. It only states that if the "specification" describes a compound (e.g. "compound X") as unsuitable, and after the patent issues the appellants find they can use "compound X," the original disclosure of unsuitability precludes them from obtaining a reissue patent for this compound. The Examiner, however, has not pointed to anything in the written description of the reissue patent or its prosecution history that amounts to a statement by the appellants that they determined or found the metal oxide precursors and the accelerants now claimed in this reissue application unsuitable. Nor can he; the reissue patent, on the contrary, describes each of the presently claimed metal oxide precursors and accelerants as part of the invention. (Reissue patent, col. 4, lines 13-53.)

The written description does describe one aspect of the invention as providing a process and composition for depositing a silicon oxide film at deposition rates greater than about 350Å/sec., and listed several silicon oxide precursor compounds found to provide this deposition rate. (Reissue patent, par. bridging cols. 2-3, and col. 3, first full par.). These compounds, however, only comprised the silicon oxide precursors, and not the metal oxide precursors and accelerants. Reissue application composition claims 28, 29 and 31, 32, and product-by-process claims 65-66 include not only these silicon oxide precursors, but also metal oxide precursors and accelerants appellants did not claim in the reissue patent. This statement relative to certain silicon oxide precursors therefore should not preclude appellants from now claiming their use in

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compositions and products produced by an oxidation process that combine them with metal oxide precursors and accelerants appellants did not claim in the reissue patent.

Appellants' statement about the silicon oxide precursors applied to the composition, but the film itself or the film on a substrate comprise a separate invention which they now claim in this reissue application. Again, as pointed out above in this brief, appellants indicated in their written description that the invention not only pertained to the composition, but also to an "improved coating" or film. In the discussion of the invention in column 4, lines 13-18 of the Reissue patent, appellants separated the "improved coating" or film of the invention from the composition and process of depositing the coating at a rate of 350Å/sec.

The Claims do not Stand or Fall Together

Appellants emphasize that this appeal comes before the Board with only one rejection, i.e., claims 28, 29, 31-60, and 65-66 stand rejected under 35 U.S.C. § 251 because appellants allegedly attempt to recapture the claimed subject matter in this reissue application that they surrendered to obtain allowance of the reissue patent.

As pointed out above, appellants, in the reissue patent, did not claim and then amend or abandon any of the inventions of the claims on appeal in order to obtain allowance of the reissue patent. Even if the Board finds recapture only with regard to the species or subgeneric claims on appeal[2] and not the generic claims[3], such a rejection of the species or subgeneric claims does not carry over to the generic claims, since generic claims first presented in a reissue application comprise a different class of

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[2] The species or subgeneric claims comprise claims 29, 32, 34, 35, 36-38, 40-44, 48-55, and 57-60.

invention that is not affected by species or subgeneric claims in an earlier application. The Court of Appeals for the Federal Circuit addressed this in In re Doyle, 293 F. 3d, 1355, 63 U.S.P.Q. 2d 1161 (Fed. Cir. 2002), finding that failure to prosecute restricted species or subgeneric claims in a divisional application did not prevent the inventor from reissuing the base patent to claim the invention as a genus that dominated the restricted species or subgeneric claims.

The converse would also follow, i. e., if the Board found recapture only with regard to the genus claims on appeal, and not the species or subgeneric claims, the rejection of the generic claims does not carry over to the species or subgeneric claims, since species or subgeneric claims first presented in a reissue application comprise a different class of invention that is not affected by generic claims in an earlier application.

Offer in the Alternative to Dedicate Claims to the Public

If, despite the above arguments, the Board maintains that claims 33-60, 65-66 can be rejected on the grounds that appellants have attempted to recapture subject matter that should have entered into the public domain by being previously abandoned in the prosecution of the reissue patent, then appellants, in the alternative traverse the "recapture" rejection by offering to dedicate back to the public, reissue claims 33-60, 65-66 when and if granted only to appellants in this reissue application, and when and if an interference is declared with Neuman et al. U.S. Patents Nos. 5,776,236 ("Neuman '236") and 5,559387 ("Neuman '387"), and Athey et al. U.S. Patent No. 5,356,718

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(...continued)

[3] The generic claims comprise claims 28, 31, 33, 39, 45-47, 56, and 65-66.

("Athey"). Appellants do not by this offer dedicate, or offer to dedicate, directly or by implication, the claims previously issued to them in the reissue patent, or the compositions of matter employed in the product-by-process claims 65-66. Appellants, upon being awarded in the interference the claims that are the subject of this offer to dedicate, will put them back into the public domain by this dedication where they belong if recapture is a valid rejection and if appellants were in fact the first inventors and previously dedicated them to the public through abandonment.

Appellants point out that Neuman '236, Neuman '387, and Athey contain claims to substantially the same subject matter as appellants' claims 33-60, 65-66. If the Examiner's contention is correct that the subject matter of these claims had been previously abandoned, and by implication dedicated to the public by appellants, then the issuance of these patents have in effect eliminated that so-called dedication, since these patents recaptured that subject matter from the public domain. Neuman '236, Neuman '387, and Athey were based on patent applications that were either co-pending with the earlier filed reissue patent application or pending at the time the reissue patent issued, and an interference should have been declared between the reissue patent application or reissue patent and the Neuman '236, Neuman '387, and Athey applications or patents. Appellants are willing to provide a way to correct the recapture of subject matter caused by granting Neuman '236, Neuman '387, and Athey by offering to dedicate claims 33-60, 65-66 to the public upon issuing them to appellants in a reissue patent, and by a declaration of interference between the present application and Neuman '236, Neuman '387, and Athey. When appellants prevail in the interference, a reissue patent containing these claims will be granted, and they will be obligated to

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dedicate them to the public because of their representation to make the dedication. This will also address the recapture of the subject matter of claims 33-60, 65-66 that occurred by the issuance of Neuman '236, Neuman '387, and Athey.

Conclusions

Appellants request the Board to overrule the Examiner in all respects, and remand the application to the Examiner for issuance of a Notice of Allowance. If the Board overrules the Examiner appellants request that the Board indicate if they base their action upon appellants' arguments, or upon appellants' alternative offer to dedicate claims 33-60, 65-66 to the public upon having these claims awarded to them as a result of an interference with Neuman '236, Neuman '387, and Athey.

If entry of this Brief on Appeal requires an extension of time pursuant to 37 C.F.R. § 1.136 and payment of an extension fee or other fee, any of which this Brief does not account for, appellants' attorneys request such an extension and payment of any fees due from their deposit account No. 06-0916.

Respectfully submitted,
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: December 30, 2002

By: _____
Robert J. Eichelburg
Reg. No. 23,057

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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(9) APPENDIX

28. A gaseous composition comprising at least one precursor of a metal oxide, an accelerant selected from the group consisting of organic phosphites, organic borates, and water, and a precursor of silicon oxide having the formula $R_m O_n Si_p$, where m is from 3 to 8, n is from 1 to 4, p is from 1 to 4, and R is independently chosen from hydrogen and acyl, straight, cyclic, or branched-chain alkyl and substituted alkyl or alkenyl of from one to about six carbons, and phenyl or substituted phenyl, and wherein said composition is gaseous at a temperature below about 200°C at atmospheric pressure and is adapted to deposit at least a first layer of an oxide and silicon oxide onto a glass at a rate of deposition greater than 350Å/sec.

29. The gaseous composition of claim 28, wherein at least one precursor for a metal oxide is selected from the group consisting of compounds of tin, germanium, titanium, aluminum, zirconium, zinc, indium, cadmium, hafnium, tungsten, vanadium, chromium, molybdenum, iridium, nickel, and tantalum.

31. A gaseous composition comprising a metal oxide precursor, an accelerant selected from the group consisting of phosphites, borates, water, alkyl phosphine, arsine and borane derivatives, PH_3, AsH_3, B_2H_6, O_2, N_2O, NF_3, NO_2, and CO_2, and a precursor of silicon oxide having the formula $R_m O_n Si_p$, where m is from 3 to 8, n is from 1 to 4, p is from 1 to 4, and R is independently chosen from hydrogen and acyl, straight, cyclic, or branched-chain alkyl and substituted alkyl or alkenyl of from one to about six carbons, and phenyl or substituted phenyl, and wherein said composition is gaseous at a temperature below about 200°C at atmospheric pressure and is adapted to deposit at

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least a first layer of an oxide and silicon oxide onto a glass at a rate of deposition greater than 350Å/sec.

32. The gaseous composition of claim 31, wherein the metal oxide precursor is a precursor of metal oxides selected from the group consisting of tin oxide, germanium oxide, titanium oxide, aluminum oxide, zirconium oxide, zinc oxide, indium oxide, cadmium oxide, hafnium oxide, tungsten oxide, vanadium oxide, chromium oxide, molybdenum oxide, iridium oxide, nickel oxide, and tantalum oxide.

33. A film comprising one or more metal oxides and the deposition product of an accelerant wherein said metal oxide is selected from the group consisting of tin oxide, germanium oxide, titanium oxide, aluminum oxide, zirconium oxide, zinc oxide, indium oxide, cadmium oxide, hafnium oxide, tungsten oxide, vanadium oxide, chromium oxide, molybdenum oxide, iridium oxide, nickel oxide, and tantalum oxide and wherein said accelerant is selected from the group consisting of phosphites, borates, alkyl phosphine, arsine and borane derivatives, PH_3, AsH_3, B_2H_6, NF_3, NO_2 and CO_2, and water so that when said metal oxide is tin oxide said film contains the deposition product of at least two of said accelerants, with one of said accelerants being water.

34. The film of claim 33 wherein the organic phosphite accelerants have the formula $(R"O)_3P$ where R" is independently chosen from straight, cyclic or branched-chain alkyl or alkenyl of from one to about six carbons; phenyl, substituted phenyl, or R"' CH_2CH_2-, where R"' is MeO_2C-, EtO_2C-, CH_3CO-, or HOOC-.

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35. The film of claim 33 wherein the organic borate accelerants have the formula $(R"O)_3B$ where R" is independently chosen from straight, cyclic or branched-chain alkyl or alkenyl of from one to about six carbons; phenyl, substituted phenyl, or R"' CH_2CH_2-, where R"' is MeO_2C-, EtO_2C-, CH_3CO-, or HOOC-.

36. The film of claim 33, wherein said accelerant is triethylphosphite.

37. The film of claim 33, further comprising a silicon oxide.

38. The film of claim 33, wherein said film is amorphous.

39. An article comprising a substrate and a film of claim 33 deposited thereon.

40. An article comprising a substrate and a film of claim 34 deposited thereon.

41. An article comprising a substrate and a film of claim 35 deposited thereon.

42. An article comprising a substrate and a film of claim 36 deposited thereon.

43. An article comprising a substrate and a film of claim 37 deposited thereon.

44. An article comprising a substrate and a film of claim 38 deposited thereon.

45. An article of claim 39, wherein the substrate is glass.

46. An article of claim 39, wherein the film has a refractive index which changes continuously.

47. An article of claim 39, wherein the film comprises a plurality of layers.

48. An article of claim 47, wherein each layer contains a mixture of tin and silicon oxides.

49. An article of claim 48, wherein each layer contains a concentration of tin oxide and silicon oxide different from an adjacent layer.

50. The film of claim 33, wherein the accelerant is present in an amount of up to about 0.76 mol. percent.

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51. The film of claim 33, wherein the accelerant is present in an amount of from about 0.15 mol percent to about 0.76 mol percent.

52. The film of claim 33, wherein the accelerant is present in an amount of from about 0.36 mol percent to about 0.76 mol percent.

53. The article of claim 39, wherein the accelerant is present in an amount of up to about 0.76 mol. percent.

54. The article of claim 39, wherein the accelerant is present in an amount of from about 0.15 mol percent to about 0.76 mol percent.

55. The article of claim 39, wherein the accelerant is present in an amount of from about 0.36 mol percent to about 0.76 mol percent.

56. A film comprising silicon oxide and one or more metal oxides and an oxide of an accelerant wherein said metal oxide is selected from the group consisting of tin oxide, germanium oxide, titanium oxide, aluminum oxide, zirconium oxide, zinc oxide, indium oxide, cadmium oxide, hafnium oxide, tungsten oxide, vanadium oxide, chromium oxide, molybdenum oxide, iridium oxide, nickel oxide, and tantalum oxide and wherein said oxide of an accelerant is selected from the group consisting of an oxide of phosphorous and an oxide of boron.

57. The film of claim 56 wherein said metal oxide is tin oxide.

58. A film comprising the deposition product of monobutyltin trichloride, tetraethyl orthosilicate and triethyl phosphite.

59. A film comprising the deposition product of monobutyltin trichloride, tetraethyl orthosilicate, triethyl phosphite and triethyl borate.

60. A film comprising the oxides of tin, silicon and phosphorus.

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65. A product which is an oxide composition produced by the process of oxidizing the composition comprising the oxide precursor and accelerant of any one of claims 1-29 and 31-32.

66. A product produced by the process of claim 65, wherein said oxidizing is effected in a chemical vapor deposition process.

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PATENT
Customer No. 22,852
Attorney Docket No. 01222.0034-00000

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	
David A RUSSO et al.	
Application No.: 08/544,212	Group Art Unit: 1755
Filed: October 17, 1995	Examiner: D. Brunsman
For: COATING COMPOSITION FOR GLASS	

Commissioner for Patents
Washington, DC 20231

Sir:

TRANSMITTAL OF APPEAL BRIEF (37 C.F.R. 1.192)

Transmitted herewith in triplicate is the APPEAL BRIEF in this application with respect to the Notice of Appeal filed on November 4, 2002.

This application is on behalf of

☐ Small Entity ☒ Large Entity

Pursuant to 37 C.F.R. 1.17(f), the fee for filing the Appeal Brief is:

☐ $160.00 (Small Entity)

☒ $320.00 (Large Entity)

TOTAL FEE DUE:

Notice of Appeal Fee	$
Extension Fee (if any)	$
Total Fee Due	$320.00

☒ Enclosed is a check for $320.00 to cover the above fees.

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PETITION FOR EXTENSION. If any extension of time is necessary for the filing of this Appeal Brief, and such extension has not otherwise been requested, such an extension is hereby requested, and the Commissioner is authorized to charge necessary fees for such an extension to our Deposit Account No. 06-0916. A duplicate copy of this paper is enclosed for use in charging the deposit account.

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: December 30, 2002

By: _____
Robert J. Eichelburg
Reg. No. 23,057

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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